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To the Joint Commission on
Scientific and Technical
Cooperation: USA-USSR

Have received an earlier
version with pages in incorrect
order.

Ray

Washington, D. C. October 30, 1974

R E P O R T

The Joint USA-USSR Working Group on Scientific and Technical Cooperation in Forestry transmits to the USA-USSR Joint Commission the Minutes of the Meeting between the leader of the USSR Delegation - Mr. G. I. Vorobyov, Chairman of the State Forestry Committee, USSR Council of Ministers, and of the leader of the USA Delegation - Mr. J. R. McGuire, Chief, Forest Service, U. S. Department of Agriculture--as well as Minutes of the Second Meeting of the USA-USSR Working Group with appropriate appendices.

The Delegations request the Joint Commission to approve this program so that further scientific and technical cooperation may go forward as rapidly as possible.

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John McGuire
J. R. McGuire
Chief, Forest Service
U. S. Department of Agriculture

T. Vorob'yov
G. I. Vorobyov
Chairman, State Forestry
Committee
USSR Council of Ministers

USDA Waiver Letter In ERU File

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of the meeting of the Chairman of the State Forestry Committee, USSR Council of Ministers and the Leader of the U.S. Forestry Delegation on Scientific and Technical cooperation in Forestry

During the period of October 18 to October 30, 1974, talks between the delegations of the State Forestry Committee, USSR Council of Ministers and the USA headed by the Forest Service, Department of Agriculture, on Scientific and Technical Cooperation in Forestry were held in Washington, D.C.

The Participants were:

on the American side:

J. R. McGuire	Chief, Forest Service, U.S. Department of Agriculture
M. B. Dickerman	Deputy Chief for Research Forest Service
R. W. Brandt	Director of International Forestry Forest Service
L. Biddison	Assistant Regional Forester Division of Fire and Air Management Forest Service
E. Ellwood	Dean, School of Forest Resources North Carolina State University
O. Traczewitz	Director of Woodlands, International Paper Company

on the Soviet side:

G. Vorobyov	Chairman, State Forestry Committee USSR Council of Ministers
N. Moisseyev	Chief, Department of Science, Introduction of Advanced Methods and Foreign Relations

P. I. Moroz

Chief of the All Union Forestry
Planning Association

E. S. Artsybashev

Chief of the Forestry Fire
Branch of the Leningrad
Scientific-Research Institute
on Forestry

K. T. Gaftanyuk

Chief of the L'vov Forestry
Administration

N. N. Larionova

Senior Engineer, Foreign
Relations Department,
USSR State Forest Economy

During the talks the delegations confirmed interest in subject areas discussed previously, and outlined possible new approaches to Scientific and Technical Cooperation in Forestry and expressed satisfaction with the results of cooperative work performed since the first meeting in 1973.

The plan for Scientific and technical Cooperation for 1974-79 continues to be directed toward solving the following main problems of mutual interest:

- I. Effective methods and means of detection, prevention, and control of forest fires;
- II. Integrated control of forest insects and diseases;
- III. Classification of forest biogocenosis and determination of their biological productivity potential;
- IV. Development of improved technological processes of forest harvesting;
- V. Reforestation and afforestation.

The delegations noted that all listed subjects are directly connected with the environment.

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the work plan of the joint scientific-research of the USSR and the USA in the field of forestry for 1974-1979, specified the topics of scientific-technical cooperation, and also approved the minutes of the second meeting of the working group (with appendices including the work plan) and specific research methods for 1975 on the topic, "Techniques and Tactics of Extinguishing Forest Fires with Chemical Substances on the Ground and from the Air," the implementation of which is provided by the Soviet-American plan for scientific-technical cooperation for 1974-1979.

During the visit in the USA, the Russian Delegation became acquainted with activities of the Forest Insect and Disease Laboratory and Yale University at New Haven, Connecticut; the North Central Forest Experiment Station and University of Minnesota in Minneapolis; the Forestry Sciences Laboratory and Oregon State University at Corvallis, Oregon; and the Forest Fire Laboratories at Missoula, Montana. The USSR foresters also visited the Western Forestry Center at Portland, Oregon.

Both parties note with satisfaction that their meeting proceeded in an amicable and business-like atmosphere, and will contribute to a strengthening of cooperation in the field of forestry. The parties agreed that further exchanges can be carried forth on a scientist-to-scientist basis in line with the above program areas.

These minutes have been drawn up in Washington, D.C., on October 30, 1974, in Russian and in English, and these two texts are equally valid.

John McGuire
JOHN MCGUIRE
CHIEF, FOREST SERVICE
U.S. DEPARTMENT OF
AGRICULTURE

I. V. Repovskiy
I. V. REPOVSKIY
CHAIRMAN OF THE STATE FORESTRY
COMMITTEE OF THE USSR COUNCIL
OF MINISTERS

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M I N U T E S

of the Second Meeting of the Joint American-Soviet Working Group of Experts on Scientific and Technical Cooperation in the Field of Forestry

In accordance with the Agreement between the Governments of the USA and USSR for cooperation in the fields of Science and Technology, signed on May 24, 1972, and with the decision of the First Session of the American-Soviet Joint Commission on Scientific and Technical Cooperation, the second meeting of the Joint American-Soviet Working Group of experts on Scientific and Technical Cooperation in the Field of Forestry was held.

The meeting took place in Washington, D. C., from October 18 to October 30, 1974.

The Working Group of the Soviet Delegation was headed by N. Moisseyev, Chief of the Department of Research, Introduction of Progressive Innovation and Foreign Relations, State Forestry Committee, USSR Council of Ministers.

The Working Group of the American Delegation was headed by M. B. Dickerman, Deputy Chief for Research, Forest Service, U. S. Department of Agriculture.

Scientific-technical cooperation in the field of forestry for the period between the First and Second meetings was summed up at the meeting of the working group; measures for implementing topics of scientific-technical cooperation, planned at the First meeting, were examined; work plans for scientific-research for 1974-1979 were prepared and approved; the time and place for holding the Third meeting of the working group was agreed.

Specifically, the following agreements were reached:

1. The working group evaluated positively the results of scientific-technical cooperation in the field of forestry during the period between the first and second meetings of the working group.

2. In the course of implementing Soviet-American cooperation, the sides exchanged scientific-technical information on forestry questions of interest to them.

3. The working group acknowledges the necessity of developing scientific-technical cooperation in the directions and manner adopted at the previous meeting in September 1973 in Moscow (according to Appendix 1 of the minutes of the first meeting).

4. The working group further developed and generally approved a work plan (Appendix 1) of joint scientific-research between the USSR and the USA in the field of forestry for 1975-1979, and approved research methods for 1975 on the topic: "Techniques and Tactics of Extinguishing Forest Fires with Chemical Substances on the Ground and from the Air." (Appendix 2).

5. The working group acknowledged the usefulness of the topics adopted at the first meeting for further mutually beneficial cooperation in the field of forestry. (Appendix 3).

6. An understanding was reached on carrying out a periodic mutual exchange of groups of experts during 1975 for the purpose of reviewing the implementation of joint work, for discussion of the results of research carried out, and for exchange of mutual information. Specific dates and the places for conducting mutual visits will be agreed during the course of work.

7. The working group recognizes that the mutual exchange of information materials must be executed in compliance with the legislation of each of the sides. Any information acquired in the course of scientific and technical cooperation may be transmitted to a third party upon agreement between the two contracting sides.

8. Members of the working group pointed out, with pleasure, the mutual understanding and business atmosphere of the meeting.

9. The working group agreed that further exchanges can be carried forth on a scientist-to-scientist basis in line with the above program areas if the proposed program is approved by the Joint Commission.

The Minutes are recorded and signed in Washington, D. C., on October 30, 1974, two copies, in English and Russian. Both texts are equally valid.

M. B. Dickerman
M. B. DICKERMAN
CHAIRMAN OF THE AMERICAN PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY

N. Moisseev
N. MOISSEYEV
CHAIRMAN OF THE SOVIET PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY

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THE PROBLEMS SUBJECTED TO JOINT WORK IN FURTHER
EXPANSION OF COOPERATION

1. Genetics. Selection, introduction, and forest seed production.
2. Establishment of high-productive and early-maturing plantations, including utilization of effluents for the purposes of irrigation.
3. Development of methods of forest inventory and forest organization with the use of measurement techniques and air survey (aerial photography).
4. Economics and organization of multipurpose forestry.
5. Interrelationships of the forest and the environment.
6. Dutch elm disease in shelterbelts and methods of its control.
7. Establishment and maintenance of forest stands optimal structure.
8. Biological and chemical methods of control Fomes annosus.
9. Training of scientific personnel by means of postgraduate (studentship) and by skill improvement of managing personnel.

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APPROVED:

J. R. McGuire

I. R. McGuire
CHIEF, FOREST SERVICE

S. DEPARTMENT OF AGRICULTURE

WORKING PLAN FOR USSR AND USA JOINT RESEARCH
IN THE FIELD OF FORESTRY
FOR 1974-1979

T. Vorobjov
G. I. VOROBYOV
CHAIRMAN, STATE FORESTRY
COMMITTEE
USSR COUNCIL OF MINISTERS

I. Domination of subjects and
stages of research activities

Participant Organizations

Date of
Fulfillment
Cooperation

Begin-
ning
nation

USA

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I. Development of effective methods and

means of detection, prevention, and
forest fire controls.

State Forestry
Committee,
USSR Council
of Ministers

USDA
Forest Service

1974 1979

Technique and tactics of detection, prevention, and control of forest fires, particularly with the use of aircraft and chemicals.

LenNIIKh
Central base for
aircraft forests
protection

Forest Fire Laboratory, Missoula
(Montana), San-Dimas
Equipment Development Center.

1974 1977

a) Development of techniques and tactics of forest fire control (extinguishing) with the application of chemicals on the ground and from air.

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(1) Development and Coordination
o the exchange program and methods
o conducting experiments.

LenNIIKh
Central base for
aircraft forest
protection.

USDA
Forest Service
Washington, D. C.

1974 1974

Exchange of information, programs and methods research.

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APPROVED:

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(2) Conduct comparative tests of the most effective chemicals on the air and ground and development of recommendation for their use.	LenNIIKH Central base for aircraft forest protection.	Forest Fire Lab- oratory, Missoula (Montana). San-Dimas Equipment Center.	1975	1976	Dispatch of American specialists to USSR to conduct experiments. Exchange of samples of chemicals.
(3) Evaluation of methods of forest fire control (extinguishing) with chemicals from the air and development of recommendation for their use.	LenNIIKH Automated systems for forest fire protection.	USDA Forest Service Washington, D. C.	1976	1977	Dispatch of USSR specialists to USA. Exchange of information.
i. Artificial inducing of precipitation and prevention of lightning in forest fire control.	LenNIIKH Additional items of interest:	Forest Fire Lab- oratory, Missoula (Montana)	1974	1975	Exchange of information.
a) Detection of forest fires with the use of infrared equipment.	LenNIIKH Forest Fire Lab- oratory, Riverside, California.	1974	1976	Exchange of information.	
b) Forest fire hazard rating by weather elements.	LenNIIKH USDA, Forest Service	1974	1975	Dispatch of USSR specialists to exchange of information.	
c) Development of mathematical model for forest fire behavior.	DalNIIKH Forest Fire Lab- oratory, Missoula (Montana)	1974	1975	Exchange of information.	
d) Ground equipment for forest fire control.	DalNIIKH San-Dimas Equipment Development Center	1974	1976	Exchange of information.	

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III-1 Integrated control of forest pests and diseases.		State Forestry Committee, USSR Council of Ministers.	USDA, Forest Service Washington, D.C.	1974	1979	
1. Integrated control of Gypsy moth (<i>Poplithetria dispar</i>).	VNIILM UkrNIIILKh	Laboratory of Forest Insects and Diseases - Connecticut and Oregon.	1974	1979		
(a) Methods of Gypsy moth assessment and forecasting of populations.	"	VNIILM UkrNIIILKh	1974	1979		
- Assessment and forecasting methods for Gypsy moth.	"	"	1974	1975	Exchange information	
- Analysis of Gypsy moth outbreaks and modifying factors in dynamics of its population.	"	"	1975	1976	Exchange information	
- Prediction of Gypsy moth outbreaks and tests under field conditions.	"	"	1976	1979	Exchange of information	
(b) Methods and techniques of Gypsy moth control with the use of attractants.	"	"	1974	1979		
- Determination of trends in application of Gypsy moth attractants and development of program and methods of research.	VNIILM	"	1974	4th Qtr. 1975	Exchange of information	

1	2	3	4	5	6	7
		VNIIM UkrNIILKA	Laboratory of Forest Insects and Diseases - Connecticut and Oregon.	1975	1976	Joint work.
		VNIIM	- use of attractants in detection of Gypsy moth.	1977	1979	Joint work. Exchange of results of Exchange of specialists.
		Pacific Northwest Forest Experiment Station, Oregon.	Development of detailed plan and research program by USA.	1975	1979	

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1	Classification of forest biogeoco-	USSR Academy of Sciences, State Forestry Comm.	USDA, Forest Service.	1974	1979	Continued ex- change of information.
1.	Development and specification of classification of forest bioge- coenes.	Forest Laboratory of USSR Academy of Sciences; VNIILM.	Forest Laboratory, 1974 Intermountain For- est Experiment Station, Missoula, Montana.	1974	1975	Exchange of information.
2.	Determination of potential pro- ductivity of forests (bearing in mind the multiple use of forests).	Forest Laboratory of USSR Academy of Sciences, VNIILM, LenNIIKh.	Southeastern Forest Experiment Station, Asheville, N.C.	1975	1976	Exchanged information.
3.	Influence of forestry activities on dynamics of forest biogeoco- enes, including use of chemicals in forest management stages. (a) Development of program and methods of joint research.	VNIILM, LenNIIKh.	Ashville, N.C.	1975	1979	1975
				1975	1975	Exchanged information. Development of detailed re- search program by U.S.A by 1975.

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(a.3)	Development of forest management and mechanical requirements for machinery used for principal cuttings under various forest conditions.	VNIILM Tbilice Institute of Forestry, Sochi Forest Experiment Station.	Forest Service, Research, Washington, D.C.	2nd Qtr. 1976 1975 3rd & 1979	Exchange of information. Dispatching of expenses.	
b.	Development of technology and means of mechanization for thinning.	VNIILM	Forest Service, Research, Washington, D.C.	1975	Exchange of information.	
(b.1)	Development of program forests in flat lands. Analysis of completed research and scientific and technical developments on the problem of thinning.	"	"	1976	Exchange of information.	
(b.2)	Development of forest management and methods for joint work technical and requirements for machinery used for thinnings under various forest conditions.	"	"	1977	Exchange of information. Dispatch of specialists.	
4.	Economic evaluation of forest productivity as applied to classification.	Scientific Forestry Laboratory, Intermountain Experimental Forest Station, (Idaho).	1976	Exchange of information.		

	1	2	3	4	5	6	7
V.	reforestation and afforestation of shelterbelts	State Forestry Committee Vaskhnil	USDA Forest Service	1974	1979		
a)	Introduction, selection breeding and seed production of tree species.	Vnialni Vnilm Ukrnillkha	Research Depart- ment, Forest Service Washington, D.C.	1974	1979	Exchange of information Exchange of selected stock. Joint research	
b)	Working out the joint program and methods of research.	"	"	1975 4th Qtr.	1976	Exchange of research programs.	
c)	Identification and appli- cation of genetic and selection methods for in- creasing efficiency.	"	"	1975 4th Qtr.			
d)	Studies of growth and state of various hybrid plants on test plots with the use of biometric, physiological, electrophysiological and biochemical methods. Development of vegetative reproduction methods for the most valuable selected plants.	"	1976	1979	Recommendation o the most prospective assortment of hyb plants and forms for the purpose of pro tective reforestation, and their forest and biological characteris tics. Reciprocal business trips of expe from both sides and USA.		
					1975 4th Qtr.	1976	Mutual exchange materials for coordination.

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e) Studies on consequences of using seeds of various species, ecotypes and forms with the aim of selecting best prospects and determining targets for joint experiments on seed production.

Vnialni Research Department, Forest Service
Ukrnillka Washington, D.C.

f) Parallel experiments, based on application of similar vegetative stock or similar research methods.

" " "

1975 1975

Exchange of reports 4th Qtr. on research results.

g) Summing up results of joint research.

" " "

1976 1979

Exchange of reports on research results on subject and recommendations seed growing protective reforestation. Joint discussion results of subject study making decision on the prospects further cooperation.

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Establishment of shelterbelts in various natural conditions and their tending.	UNALMI UkrNILKE	Rocky Mountain Forest Experiment Center, Lincoln, Nebraska.	1974	1979	Exchange of information. Preparation of joint work programs.	
a) Studies on reclamation, preparation, and nutrition of soils with application of ameliorants or without them.	"	"	1974	1979		
Exchange of information on the state of subject. Working out of research program.	"	"	1974	1975	Exchange of published papers.	
Specification of research program.	"	"	1976 2nd Qtr.	1976 2nd Qtr.	Exchange of programs and scientific reports. Reciprocal business trips of experts.	
b) Testing and technology of herbicides in control of weedy vegetations.	"	"	1974	1979		
Exchange of information on the state of subject. Working out of research program.	"	"	1974	1975	Exchange of published papers.	
Specification of research program.	"	"	1976 2nd Qtr.	1976 2nd Qtr.	Exchange of programs and scientific reports. Reciprocal business trips of experts.	

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c)	Effects of shelterbelts on agriculture and wildlife.	VNIALMI UkrNIILKh	Rocky Mountain Forest Experiment Center, Lincoln, Nebraska	1974	1979		
d)	Specification of research program.	"	"	1974	1975	Exchange of published papers.	
	Specific mixtures and spacing within and between shelterbelts on nonirrigated and irrigated lands.	"	"	1974	1979	Exchange of programs and scientific reports.	
	Exchange of information on the state of subject. Working out research program.	"	"	1975	1975	Exchange of publicad papers.	
	Specification of research program.	"	"	1975	1975	Exchange of programs and scientific reports.	
e)	Summary and recommendations.	"	"	1979	1979	Exchange of reports of research results and recommendations.	

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Technology and large-scale mechanization of reforestation activities.

LenNIIKKh
VNIIIM
LatNIIKHP

Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)

a) Production of planting stock with enclosed root system.

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1974

1979

Exchange of information on the state of subject on production of planting stock with enclosed root system. Working out of research program.

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1974

1975

Exchange of published papers.

Specification of research programs. Laying out experiments on production of planting stock with enclosed root system from seedlings by various methods. (Placement of seedling roots into suppressed substrate, briquettes and containers.) Mechanization of operations.

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1975

1976

Exchange of programs and scientific reports. Reciprocal business trips of experts.

Studies on determination of dates and conditions of planting stock growing with enclosed root system from seedlings in connection with briquette sizes.

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1976

Exchange of scientific reports.

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Analysis of existing mechanization on production of planting stock with enclosed root system and working out agriculture requirements for new machinery.

LenNIIKH
VNIIIM
LatNIKHP

Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)

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	2	3	4	5	6	7
Development of necessary machinery for large scale mechanization of seedlings growing in greenhouses.	LenNIIKHK VNIILM LatNIIKHP	Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1977	Exchange of scientific reports.		
Testing of machinery complex including recently ones developed in conditions of controlled environment.	"	1978	Exchange of scientific reports.			
Continuation of tests and working out recommendations on complex of machinery for growing of seedlings in conditions of controlled environment.	"	1978	1979	Exchange of scientific reports. Reciprocal business trips of experts.		
c) Mechanization of reforestation activities.	VNIILM LenNIIKHK	"	1974	1979		
Exchange of information on establishment of coniferous plantations on cutovers in conditions of intensive alternation of species.	"	"	1975	Exchange of published papers.		
Exchange of information on reforestation activities on drained excessive water-logged soils.	LenNIIKHK VNIILM	"	1975	Exchange of published papers.		
Development of research program.	VNIILM LenNIIKHK	"	1975	Exchange of published papers.		

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	2	3	4	5	6	7
Experiments on mechanization of activities on fresh cutovers in conditions of quick alternation of species.	VNIILM LenNIIKM "	Laberatory of forest field shelter-belts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1975	Exchange of scientific papers.		
Experiments on establishment of plantations on water-logged soils with the use of briquettes (soil preparation, planting).	VNIILM LenNIIKM "	1975	Exchange of scientific papers.			
Specification of research program.	VNIILM LenNIIKM "	1975	Reciprocal business trips of experts.			
Field experiments with reforestation methods based on large-scale mechanization and application of chemicals under conditions of species alternation.	VNIILM "	1976	Exchange of scientific papers.			
Laying out of experiments using briquettes on establishment of forest cultures and plantations on drained lands.	LenNIIKM "	1976	Exchange of scientific papers.			

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	2	3	4	5	6	7
Studies of pine and spruce cultures on quickly over-growing cutovers under large-scale mechanization of operations with the use of transplants.	VNIILM	Laboratory of forest field shelter-belts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1977	Exchange of scientific papers.		
Large-scale mechanization of activities of establishment of forest plantation with briquettes.	LenNIIKh	"	1977	Exchange of scientific papers.		
Studies on large-scale mechanization and application of chemicals in establishment of forest plantations on cut-land under conditions of species alteration.	VNIILM	"	1978	Exchange of scientific papers.		
Silvicultural and economic appraisal of methods of reforestation and establishment of plantation type forest stands by using planting stock with enclosed root system.	LenNIIKh	"	1978	Exchange of scientific papers.		
Analysis of prospective methods of mechanization and application of chemicals for cutover reforestation with the use of transplants and briquettes.	VNIILM LenNIIKh	"	1978	1979	Exchange of scientific papers. Reciprocal business trips of experts.	

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d) 1 Summary and recommendations

1979

Exchange of reports
of research results
and recommendations

M. B. DICKERMAN
CHAIRMAN OF THE AMERICAN PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY

N. MOISEYEV
CHAIRMAN OF THE SOVIET PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY

CCS
LES-
B61(Best)
DER
OSI [REDACTED]
Name

STATINTL

To the Joint Commission on
Scientific and Technical
Cooperation: USA-USSR

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I may have given
you copies of the
already.*

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Washington, D. C. October 30, 1974

R E P O R T

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John R. McGuire
J. R. McGuire
Chief, Forest Service
U. S. Department of Agriculture

G. I. Vorob'yov
G. I. Vorob'yov
Chairman, State Forestry
Committee
USSR Council of Ministers

*Soviet - Forestry
Group*

M I N U T E S

of the meeting of the Chairman of the State Forestry Committee, USSR Council of Ministers and the Leader of the U.S. Forestry Delegation on Scientific and Technical cooperation in Forestry

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The Participants were:

on the American side:

J. R. McGuire	Chief, Forest Service, U.S. Department of Agriculture
M. B. Dickerman	Deputy Chief for Research Forest Service
R. W. Brandt	Director of International Forestry Forest Service
L. Biddison	Assistant Regional Forester Division of Fire and Air Management Forest Service
E. Ellwood	Dean, School of Forest Resources North Carolina State University
O. Traczewitz	Director of Woodlands, International Paper Company

on the Soviet side:

G. Vorobyov	Chairman, State Forestry Committee USSR Council of Ministers
N. Moisseyev	Chief, Department of Science, Introduction of Advanced Methods and Foreign Relations

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29 JAN 1975

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P. I. Moroz

Chief of the All Union Forestry
Planning Association

E. S. Artsybashev

Chief of the Forestry Fire
Branch of the Leningrad
Scientific-Research Institute
on Forestry

K. T. Gaftanyuk

Chief of the L'vov Forestry
Administration

N. N. Larionova

Senior Engineer, Foreign
Relations Department,
USSR State Forest Economy

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- II. Integrated control of forest insects and diseases;
- III. Classification of forest biogeocenosis and determination of their biological productivity potential;
- IV. Development of improved technological processes of forest harvesting;
- V. Reforestation and afforestation.

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the work plan of the joint scientific-research of the USSR and the USA in the field of forestry for 1974-1979, specified the topics of scientific-technical cooperation, and also approved the minutes of the second meeting of the working group (with appendices including the work plan) and specific research methods for 1975 on the topic, "Techniques and Tactics of Extinguishing Forest Fires with Chemical Substances on the Ground and from the Air," the implementation of which is provided by the Soviet-American plan for scientific-technical cooperation for 1974-1979.

During the visit in the USA, the Russian Delegation became acquainted with activities of the Forest Insect and Disease Laboratory and Yale University at New Haven, Connecticut; the North Central Forest Experiment Station and University of Minnesota in Minneapolis; the Forestry Sciences Laboratory and Oregon State University at Corvallis, Oregon; and the Forest Fire Laboratories at Missoula, Montana. The USSR foresters also visited the Western Forestry Center at Portland, Oregon.

Both parties note with satisfaction that their meeting proceeded in an amicable and business-like atmosphere, and will contribute to a strengthening of cooperation in the field of forestry. The parties agreed that further exchanges can be carried forth on a scientist-to-scientist basis in line with the above program areas.

These minutes have been drawn up in Washington, D.C., on October 30, 1974, in Russian and in English, and these two texts are equally valid.

John McGuire
JOHN MCGUIRE
CHIEF, FOREST SERVICE
U.S. DEPARTMENT OF
AGRICULTURE

T. V. Yakovlev
T. V. YAKOVLEV
CHAIRMAN OF THE STATE FORESTRY
COMMITTEE OF THE USSR COUNCIL
OF MINISTERS

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M I N U T E S

of the Second Meeting of the Joint American-Soviet Working Group of Experts on Scientific and Technical Cooperation in the Field of Forestry

In accordance with the Agreement between the Governments of the USA and USSR for cooperation in the fields of Science and Technology, signed on May 24, 1972, and with the decision of the First Session of the American-Soviet Joint Commission on Scientific and Technical Cooperation, the second meeting of the Joint American-Soviet Working Group of experts on Scientific and Technical Cooperation in the Field of Forestry was held.

The meeting took place in Washington, D. C., from October 18 to October 30, 1974.

The Working Group of the Soviet Delegation was headed by N. Moisseyev, Chief of the Department of Research, Introduction of Progressive Innovation and Foreign Relations, State Forestry Committee, USSR Council of Ministers.

The Working Group of the American Delegation was headed by M. B. Dickerman, Deputy Chief for Research, Forest Service, U. S. Department of Agriculture.

Scientific-technical cooperation in the field of forestry for the period between the First and Second meetings was summed up at the meeting of the working group; measures for implementing topics of scientific-technical cooperation, planned at the First meeting, were examined; work plans for scientific-research for 1974-1979 were prepared and approved; the time and place for holding the Third meeting of the working group was agreed.

Specifically, the following agreements were reached:

1. The working group evaluated positively the results of scientific-technical cooperation in the field of forestry during the period between the first and second meetings of the working group.
2. In the course of implementing Soviet-American cooperation, the sides exchanged scientific-technical information on forestry questions of interest to them.
3. The working group acknowledges the necessity of developing scientific-technical cooperation in the directions and manner adopted at the previous meeting in September 1973 in Moscow (according to Appendix 1 of the minutes of the first meeting).
4. The working group further developed and generally approved a work plan (Appendix 1) of joint scientific-research between the USSR and the USA in the field of forestry for 1975-1979, and approved research methods for 1975 on the topic: "Techniques and Tactics of Extinguishing Forest Fires with Chemical Substances on the Ground and from the Air." (~~Appendix 2~~)
5. The working group acknowledged the usefulness of the topics adopted at the first meeting for further mutually beneficial cooperation in the field of forestry. (Appendix 3).
6. An understanding was reached on carrying out a periodic mutual exchange of groups of experts during 1975 for the purpose of reviewing the implementation of joint work, for discussion of the results of research carried out, and for exchange of mutual information. Specific dates and the places for conducting mutual visits will be agreed during the course of work.

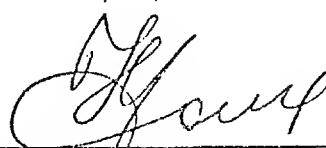
7. The working group recognizes that the mutual exchange of information materials must be executed in compliance with the legislation of each of the sides. Any information acquired in the course of scientific and technical cooperation may be transmitted to a third party upon agreement between the two contracting sides.

8. Members of the working group pointed out, with pleasure, the mutual understanding and business atmosphere of the meeting.

9. The working group agreed that further exchanges can be carried forth on a scientist-to-scientist basis in line with the above program areas if the proposed program is approved by the Joint Commission.

The Minutes are recorded and signed in Washington, D. C., on October 30, 1974, two copies, in English and Russian. Both texts are equally valid.


M. B. DICKERMAN
CHAIRMAN OF THE AMERICAN PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY


N. MOISSEYEV
CHAIRMAN OF THE SOVIET PART
OF THE WORKING GROUP IN THE
FIELD OF FORESTRY

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THE PROBLEMS SUBJECTED TO JOINT WORK IN FURTHER
EXPANSION OF COOPERATION

1. Genetics. Selection, introduction, and forest seed production.
2. Establishment of high-productive and early-maturing plantations, including utilization of effluents for the purposes of irrigation.
3. Development of methods of forest inventory and forest organization with the use of measurement techniques and air survey (aerial photography).
4. Economics and organization of multipurpose forestry.
5. Interrelationships of the forest and the environment.
6. Dutch elm disease in shelterbelts and methods of its control.
7. Establishment and maintenance of forest stands optimal structure.
8. Biological and chemical methods of control Fomes annosus.
9. Training of scientific personnel by means of postgraduate (studentship) and by skill improvement of managing personnel.

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APPROVED:

APPROVED:

Geograph. Inde Grise

R. MC GUIRE
CHIEF, FOREST SERVICE
PROJ. DEPARTMENT OF AGRIC.

Approved
G. I. VOROB'YOV
CHAIRMAN, STATE FORESTRY
COMMITTEE
USSR COUNCIL OF MINISTERS

WORKING PLAN FOR USSR AND USA JOINT RESEARCH
IN THE FIELD OF FORESTRY
FOR 1974-1979

Recombinatin of subjects and categories of research activities

Date of
Participant Organizations

USSR	USA	Beginning	Terming	Nation
2

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State Forestry USDA 1974 1978

Committee, Forest Service

USSR Council
of Ministers

RDP Technique and tactics of detection, prevention, and control of forest fires, particularly with the use of aircraft and chemicals.

98A00040
a) Development of techniques and
strategies of forest fire control
(extinguishing) with the application
of chemicals on the ground and from air.

(1) Development and Coordination of the exchange program and methods of conducting experiments.	LenNIIKh Central base for aircraft forest protection.	USDA Forest Service Washington, D. C.	1974	1974	Exchange of for- mation, programs and methods of research.
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Exchange of information, programs and methods of research

2	3	4	5	6	7
(2) Conduct comparative tests of the most effective chemicals on the air and ground and development of recommendation for their use.	LenNIIKKh Central base for aircraft forest protection.	Forest Fire Laboratory, Missoula (Montana). San-Dimas Equipment Center.	1975	1976	Dispatch of American specialists to USSR to conduct experiments. Exchange of samples of chemicals.
(3) Evaluation of methods of forest fire control (extinguishing) with chemicals from the air and development of recommendation for their use.	LenNIIKKh Central base for aircraft forest protection.	Forest Fire Laboratory, Missoula (Montana). San-Dimas Equipment Center.	1976	1977	Dispatch of USSR specialists to USA. Exchange of information.
Development and operation of automated systems for forest fire protection.	LenNIIKKh	USDA Forest Service Washington, D. C.	1974	1976	Exchange of information.
Artificial inducing of precipitation and prevention of lightning in forest fire control.	LenNIIKKh	Forest Fire Laboratory, Missoula (Montana)	1974	1975	Exchange of information.
Additional items of interest:					
a) Detection of forest fires with the use of infrared equipment.	LenNIIKKh	Forest Fire Laboratory, Riverside, California.	1974	1976	Exchange of information.
b) Forest fire hazard rating by weather elements.	LenNIIKKh	USDA, Forest Service 1974	1975	1975	Dispatch of USSR specialists to USSR and exchange of information.
c) Development of mathematical model for forest fire Behavior.	DalNIIKKh	Forest Fire Laboratory, Missoula (Montana)	1974	1975	Exchange of information.
d) Ground equipment for forest fire control.	LenNIIKKh VNIMLesKhoz DalNIIKKh	San-Dimas Equipment Development Center	1974	1976	Exchange of information.

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II	Integrated control of forest pests and diseases.	State Forestry Committee, USSR Council of Ministers.	USDA, Forest Service Washington, D.C.	1974	1979	
1.	Integrated control of Gypsy moth (<i>Poplertia dispar</i>).	VNIILM UkrNIIILKH	Laboratory of Forest Insects and Diseases - Connecticut and Oregon.	1974	1979	
	(a) Methods of Gypsy moth assessment and forecasting of populations.	VNIILM UkrNIIILKH	" "	1974	1979	
	- Assessment and forecasting methods for Gypsy moth.	" "	" "	1974	1975	Exchange of information
	- Analysis of Gypsy moth outbreaks and modifying factors in dynamics of its population.	" "	" "	1975	1976	Exchange of information
	- Prediction of Gypsy moth outbreaks and tests under field conditions.	" "	" "	1976	1979	Exchange of information
	(b) Methods and techniques of Gypsy moth control with the use of attractants.	" "	" "	1974	1979	
	- Determination of trends in application of Gypsy moth attractants and development of program and methods of research.	VNIILM	"	1974	4th Qtr. 1975	Exchange of information

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1	2	3	4	5	6	7
1.	- use of attractants in detection of Gypsy moth.	VNIIM UkrNIKHA	Laboratory of Forest Insects and Diseases - Connecticut and Oregon.	1975	1976	Joint work. Exchanged of results.
2.	- development of methods and technique of attractant application in control of Gypsy moth.	VNIIM UkrNIKHA	"	1977	1979	Joint work. Exchanged of results.
	Improvement of microbiological and chemical methods for control of forest insects.	VNIIM UkrNIKHA	Pacific Northwest Forest Experiment Station, Oregon.	1975	1979	Development of detailed plan and research program by USA.

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Classification of forest biogeocoenes and determination of their productivity.	USSR Academy of Sciences, State Forestry Comm.	USDA, Forest Service.	1974	1979	Continue exchange of information.	
1. Development and specification of classification of forest biogeocoenes.	Forest Laboratory of USSR Academy of Sciences; VNIIIM.	Forest Laboratory, Intermountain Forest Experiment Station, Missoula, Montana.	1974	1975	Exchange of information.	
2. Determination of potential productivity of forests (bearing in mind the multiple use of forests).	Forest Laboratory of USSR Academy of Sciences, VNIIIM, LenNIIKKh.	Southeastern Forest Experiment Station, Asheville, N.C.	1975	1976	Exchange of information.	
3. Influence of forestry activities on dynamics of forest biogeocoenes, including use of chemicals in forest management stages.	VNIIIM, LenNIIKKh.	Asheville, N.C.	1975	1979		
	(a) Development of program and methods of joint research.		1975	1975	Exchange of information.	
					Development of detailed research program by U.S.A. to be completed by 1975.	

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IV	Development of improved technological processes and means of mechanization of forest harvesting.	State Forestry Committee, USSR Council of Ministers.	USDA, Forest Service Washington, D.C.	1974	1979	Exchange of information
VNIIIM,	Technology of clearcutting and clearing the site.	Leningrad Forestry Research Institute.	Forest Service, Research Washington, D.C.	1974	1975	Exchange of information
All-Union Research Institute for Forestry and Mechanization.	Study of changes in the forest environment as a result of cutting and mechanical logging.	Pacific Northwest Forest Experiment Station, Portland, Oregon.	Pacific Northwest Forest Experiment Station, Portland, Oregon.	1975	1975	Exchange of information
VNIILM,	Development of technology and means of mechanization of partial cuttings.	Tbilice Institute of Forestr. Sochi Forest Experiment Station.	Forest Service, Research, Washington, D.C.	1974	1977	Exchange of information
(a)	Development of technology and means of mechanization of shelterwood and selection cuttings, with use of machinery and equipment (for mountain regions and flat lands).	"	"	1974	1977	Exchange of information
(a.1)	Analysis of completed research and scientific-technical developments on principal cuttings.	"	"	1974	1975	Exchange of information
(a.2)	Methods of appraising environmental impact of shelterwood and selection cuttings.	"	"	1974	1976	Exchange of information

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(a.3)	Development of forest management and mechanical requirements for machinery used for principal cuttings under various forest conditions.	VNIIM , Tbilice Institute of Forestry, Sochi Forest Experiment Station.	Forest Service, Research, Washington,D.C.	2nd Qtr. 1975 3rd & 4th	1976 1979	Exchange of information. Dispatch of experts.
b.	Development of technology and means of mechanization for thinning.	VNIIM	Forest Service, Research, Washington,D.C.	"	1975	Exchange of information.
(b.1)	Development of program forests in flat lands. Analysis of completed research and scientific and technical developments on the problem of thinning.	"	"	"	1976	Exchange of information.
(b.2)	Development of forest management and methods for joint work technical and requirements for machinery used for thinnings under various forest conditions.	"	"	"	1977	Exchange of information. Dispatch of specialists.
	Economic evaluation of forest productivity as applied to classification.	"	Scientific Forestry Laboratory, Intermountain Experimental Forest Station, (Idaho).	"	1976	Exchange of information.

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• Reforestation and afforestation of shelterbelts	1	Vnialmi Vnillm Ukrnllkha	Research Department, Forest Service Washington, D.C.	1974	1979	Exchange of information. Exchange of selected stock. Joint research.
1 Introduction, selection breeding and seed production of tree species.	a)	Working out the joint program and methods of research.	"	1975 4th Qtr.	1976	Exchange of research programs.
b)	Identification and application of genetic and selection methods for increasing efficiency.	"	"	1975 4th Qtr.		Exchange of selected stock. Joint field experiments in USSR and USA with the purpose of selected stock.
c)	Studies of growth and state of various hybrid plants on test plots with the use of biometric, physiological, electrophysiological and biochemical methods. Development of vegetative reproduction methods for the most valuable selected plants.	"	"	1976	1979	Recommendation of the most prospective assortment of hybrid plants and forms for the purpose of protective reforestation and their forestry and biological characteristics. Reciprocal business trips of experts from both sides to USSR and USA.
d)	Coordination of principles and methods of research conducted on various species.	"	"	1975 4th Qtr.	1976	Mutual exchange of materials for coordination.

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e) Studies on consequences of using Vnialni Research Depart- 1975 1975 Exchange of reports
seeds of various species, ecotypes, Vniam- ment, Forest 4th Qtr. on research results.
and forms with the aim of selecting Ukrnlikha Service
best prospects and determining Washington, D.C.
targets for joint experiments on seed production.

f) Parallel experiments, based on " 1976 1979 Exchange of annual reports on researched
application of similar vegetative stock or similar research methods. results of specified program and methods.
Reciprocal business trips of experts.

g) Summing up results of joint " " Exchange of reports on research results on subject and recommendations on seed growing protection.
research.

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2. Establishment of shelterbelts in various natural conditions and their tending.

UNIALMI
UkrNIKKh

Rocky Mountain
Forest Experiment
Center, Lincoln,
Nebraska

1974
1979

1974
1979

a) Studies on reclamation, preparation, and nutrition of soils with application of ameliorants or without them.

"

"

Exchange of information on the state of subject. Working out of research program.

"

"

Specification of research program.

"

"

b) Testing and technology of herbicides in control of weedy vegetations.

"

"

Exchange of information on the state of subject. Working out of research program.

"

"

Specification of research program.

"

"

Exchange of information. Preparation of joint work program.

Exchange of published papers.

Exchange of published papers.

Exchange of programs and scientific reports. Reciprocal business trips of experts.

1976
2nd
Qtr.

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c)	Effects of shelterbelts on agriculture and wildlife.	VNIALMI UkrNIIKh	Rocky Mountain Forest Experiment Center, Lincoln, Nebraska	1974	1979	Exchange of published papers.
d)	Specification of research program.	"	"	1974	1975	Exchange of programs and scientific reports.
e)	Specific mixtures and spacing within and between shelterbelts on nonirrigated and irrigated lands.	"	"	1974	1979	Exchange of published papers.
	Exchange of information on the state of subject. Working out research program.	"	"	1975	1975	Exchange of programs and scientific reports.
	Specification of research program.	"	"	1975	1975	Exchange of programs and scientific reports.
e)	Summary and recommendations.	"	"	1979	1979	Exchange of report of research results and recommendations.

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a) Technology and large-scale mechanization of reforestation activities.						
LennILKH VNIIIM LATNILKHP	LennILKH VNIIIM LATNILKHP	Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1974	1979	
a) Production of planting stock with enclosed root system.	"	"	"	1974	1979	
Exchange of information on the state of subject on production of planting stock with enclosed root system. Working out of research program.	"	"	"	1974	1975	Exchange papers.
Specification of research programs. Laying out experiments on production of planting stock with enclosed root system from seedlings by various methods. (Placement of seedling roots into suppressed substrate, briquettes and containers.) Mechanization of operations.	"	"	"	1975	1976	Exchange and scientific Reciprocal trips of
Studies on determination of dates and conditions of planting stock growing with enclosed root system from seedlings in connection with briquette sizes.	"	"	"	1975	1976	Exchange reports.

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Analysis of existing mechanization on production of planting stock with enclosed root system and working out agriculture requirements for new machinery.	LenNIIKH VNIIIM LatNIIKHP	Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1975	1977	Exchange of scientific reports.	
Experiments on growing seedlings with enclosed root system by sowing seeds into briquettes and containers. Mechanization of operations.	"	"	1975	1978	Exchange of scientific reports.	
Prospective production methods of planting stock with enclosed root system based on results achieved.	"	"	1976	1979	Exchange of summarized scientific reports. Reciprocal business trip of experts.	
b) Mechanization and automation of operation on growing of planting stock in conditions of controlled environment.	"	"	1974	1979		
Exchange of information on mechanization of operations for growing planting stock in plastic greenhouses. Working out of research programs.	"	"	1974	1975	Exchange of published papers.	
Specification of research program. Development of machinery for growing of seedlings in conditions of controlled environment.	"	"	1975	1976	Exchange of scientific reports. Bilateral business trips of experts.	
Test of existing machinery and equipment in conditions of controlled environment.	"	"	1975	1976	Exchange of scientific reports.	

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Development of necessary machinery for large scale mechanization of seedlings growing in greenhouses.	LenNIIKH VNIIIM LatNIIKHP	Laboratory of forest field shelterbelts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1977	Exchange of scientific reports.	
Testing of machinery complex including recently ones developed in conditions of controlled environment.	"	"	1978	Exchange of scientific reports.	
Continuation of tests and working out recommendations on complex of machinery for growing of seedlings in conditions of controlled environment.	"	"	1978	Exchange of scientific reports. Reciprocal business trips of experts.	
Mechanization of reforestation activities.	VNIILM LenNIIKH	"	1974	1979	Exchange of published papers.
Exchange of information on establishment of coniferous plantations on cutovers in conditions of intensive alternation of species.	LenNIIKH VNIIIM	"	"	1975	Exchange of published papers.
Exchange of information on reforestation activities on drained excessive waterlogged soils.	LenNIIKH VNIIIM	"	"	1975	Exchange of published papers.
Development of research program.	VNIILM LenNIIKH	"	"	1975	Exchange of published papers.

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Experiments on mechanization of activities on fresh cutovers in conditions of quick alternation of species.	VNIILM	Laboratory of forest field shelter-belts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	"	1975	Exchange of scientific papers.
Experiments on establishment of plantations on water-logged soils with the use of briquettes (soil preparation, planting).	LenNIIKM	"	"	1975	Exchange of scientific papers.
Specification of research program.	VNIILM LenNIIKH	"	"	1975	Reciprocal business trips of experts.
Field experiments with reforestation methods based on large-scale mechanization and application of chemicals under conditions of species alternation.	VNIILM	"	"	1976	Exchange of scientific papers.
Laying out of experiments using briquettes on establishment of forest cultures and plantations on drained lands.	LenNIIKH	"	"	1976	Exchange of scientific papers.

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Studies of pine and spruce cultures on quickly over-growing cutovers under large-scale mechanization of operations with the use of transplants.	VNIILM	Laboratory of forest field shelter-belts, Experimental Center, Region of Rocky Mountains, Bottineau (N. Dakota)	1977	Exchange of scientific papers.		
Large-scale mechanization of activities of establishment of forest plantation with briquettes.	LenNIIKKh	"	1977	Exchange of scientific papers.		
Studies on large-scale mechanization and application of chemicals in establishment of forest plantations on cut-land under conditions of species alteration.	VNIILM	"	1978	Exchange of scientific papers.		
Silvicultural and economic appraisal of methods of reforestation and establishment of plantation type forest stands by using planting stock with enclosed root system.	LenNIIKKh	"	1978	Exchange of scientific papers.		
Analysis of prospective methods of mechanization and application of chemicals for cutover reforestation with the use of transplants and briquettes.	VNIILM LenNIIKKh	"	1978	Exchange of scientific papers. Reciprocal business trips of experts.		

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d) Summary and recommendations

1979 Exchange of reports
of research results
and recommendations

P. H. Dickey
M. B. DICKERMAN
CHIRMAN OF THE AMERICAN PART
OF THE WORKING GROUP IN THE
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N. Moiseyev
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CHAIRMAN OF THE SOVIET PART
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